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MILITARY CONSTRUCTION AT FIFTEEN CONTINENTAL BASES

TWENTY-FIRST INTERMEDIATE REPORT

OF THE

COMMITTEE ON EXPENDITURES IN THE EXECUTIVE DEPARTMENTS

DECEMBER 23, 1952.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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[1] Name changed to Committee on Government Operations, July 4, 1952.

LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
Washington, D. C., December 23, 1952.

Hon. RALPH R. ROBERTS,
Clerk of the House of Representatives,
Washington, D. C.

DEAR MR. CLERK: I submit herewith the twenty-first intermediate report of the Committee on Expenditures in the Executive Departments.[1]

WILLIAM L. DAWSON, *Chairman.*

[1] Name changed to Committee on Government Operations, July 4, 1952.

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82D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { REPORT No. 2506

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DECEMBER 23, 1952.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. DAWSON, from the Committee on Expenditures in the Executive Departments,[1] submitted the following

TWENTY-FIRST INTERMEDIATE REPORT

[Pursuant to H. Res. 736 (July 4, 1952), 82d Cong.]

On December 22, 1952, the Government Operations Subcommittee, of which Congressman Porter Hardy, Jr., is chairman, submitted a report on military construction at 15 continental bases.

In accordance with permission granted by the House on July 4, 1952, Chairman William L. Dawson submits the twenty-first intermediate report of the committee.

I. INTRODUCTION

The rapid expansion of our Armed Forces since the outbreak of the Korean hostilities has complicated immeasurably the congressional task of reviewing the military budget. The size and complexity of the military budget has made it impossible to scrutinize it in detail in the relatively short time Congress has to consider it before the appropriations must be enacted.

There are three major aspects of military expansion: Manpower, equipment and supplies, and plant facilities. For the fiscal years 1951, 1952, and 1953, Congress has appropriated approximately $9 billion for plant expansion at military bases both in continental United States and around the world. As an important facet of its study and investigation of defense spending, this subcommittee has been examining the military construction program. It has been the purpose of the subcommittee to inquire not only into the manner in which these funds are being spent, but also to determine if facts not previously disclosed to Congress create doubts as to whether the money should be spent at all.

[1] Name changed to Committee on Government Operations, July 4, 1952.

In order to observe the progress of military construction the subcommittee recently visited 15 Army, Navy, Marine, and Air Force installations in the United States. Accompanied by technical representatives from each of the services, the members made an intensive investigation of selected items of construction. The subcommittee is grateful to the Secretary of Defense and to the secretaries of each of the services for their cooperation and assistance in planning and carrying out the inspection trip. It particularly appreciated the generous cooperation extended to the members by the commanding officer at each installation.

The following bases were visited:
Fort Monmouth (Army), N. J.
Limestone Air Force Base, Maine
Fort Knox (Army), Ky.
Lowry Air Force Base, Colo.
Denver Naval Air Station, Colo.
Hamilton Air Force Base, Calif.
McClellan Air Force Base, Calif.
El Toro Marine Corps Air Station, Calif.
Camp Pendleton (Marine), Calif.
Miramar Naval Air Station, Calif.
Nellis Air Force Base, Nev.
Carswell Air Force Base, Tex.
Fort Worth Army Quartermaster Depot, Tex.
Kelly Air Force Base, Tex.
Patrick Air Force Base, Fla., and its auxiliary bases

The subcommittee found that there is a wide variation even in comparable climates, in the unit costs which the services are paying for buildings of similar functions: that overly rigid specifications may result in excessive expenditure or in buildings which are subject to early functional obsolescence; and that overelaborate features of construction have not been eliminated by the services. It was also observed by the subcommittee that in determining requirements for new buildings there is often a failure of officers within each of the services to discriminate between that which may be desirable or necessary at some future time and that which is essential here and now.

II. Comparative Costs for Similar Facilities

The subcommittee found that even for very similar buildings such as barracks and messes each of the services pay different prices. Although they all serve the same purposes their designs vary widely from service to service. The cost of these basic facilities is a large percentage of the military public works budget.

BARRACKS COSTS

At Miramar Naval Air Station the total cost of barracks and mess was $2,560 per man compared with $1,807 per man at Fort Monmouth. As a matter of fact, on the basis of the number of men which the Navy originally intended should occupy these barracks at Miramar, the per man cost is $2,965. The Camp Pendleton barracks cost $2,330 per man. A few of the barracks at Fort Knox cost $2,560 per man. The barracks at El Toro Marine Corps Air Station, which

are not yet constructed, are estimated to cost $2,534 per man. The design for these barracks and the mess ought to be carefully reviewed to see where savings can be accomplished.

Wide discrepancies appear in a comparison of costs at bases even within a single service. There is a difference of $300 in the cost per man between the barracks at Patrick Air Force Base and at Kelly Air Force Base.

Troop housing

Number and size of units	Cost per man		
	Barracks	Mess	Total
ARMY [1]			
Knox:			
32 buildings, 225 men each			$1,902
4 buildings, 165 men each			2,205
5 buildings, 105 men each			2,560
Monmouth:			
3 buildings, 500 men each			1,807
3 buildings, 500 men each			1,920
NAVY			
Miramar: 12 buildings, 120 men each	$2,078	$482	2,560
Pendleton: 10 buildings, 105 men each	1,913	417	2,330
El Toro: 3 buildings, 334 men each	1,948	586	[2] 2,534
AIR FORCE			
Limestone:			
1 building, 500 men	1,980	[3]	
39 buildings, 85 men each	1,850	549	2,399
Carswell:			
4 buildings, 85 men each	1,318	[3]	
5 buildings, 200 men each	1,200	400	[4] 1,600
Kelly: 4 buildings, 75 men each	1,450	590	2,040
Patrick: 3 buildings, 200 men each	1,150	[3]	

[1] Army messes are combined with the barracks.
[2] Estimate; no bids yet.
[3] No mess.
[4] Estimate; based on low bid.

The construction of barracks for less than 200 men is a very costly procedure. The best example is at Fort Knox where the Army paid $650 more per man for small-size barracks. The $300 difference in unit costs at Kelly and Patrick Air Force Bases appears to be the result of differences in the building designs. The estimated cost at El Toro Marine Corps Air Station seems to be clearly out of line since the Navy is paying more per man for these 334-man barracks than for the 100-man barracks at Camp Pendleton. Extravagance at Limestone Air Force Base is indicated in the fact that the large 500-man barracks cost $130 per man more than the 85-man units. It is only in recent months that the services have determined that because the construction of such small buildings is uneconomical, standard designs for larger barracks buildings will be utilized in the future.

At Camp Pendleton there is an urgent need for several thousand spaces to house men who are now living in tent camps. The Navy requested and received funds to erect temporary barracks and plans were made for providing Quonset huts. As an economical alternative the Navy decided to construct these Marine barracks with prefabricated tilt-up concrete slabs. This construction technique is resulting in the very favorable unit cost of about $480 per man.[2]

[2] This is based on a space allowance of 50 square feet per man. Other barracks cost figures are computed on an allowance of 72 square feet. At 72 square feet the unit cost becomes $691 per man.

The subcommittee was impressed with this construction because it appeared more functional and generally more satisfactory than Quonsets, and it will require lower maintenance costs. Each of the services might profit by studying this innovation with a view toward adopting a similar practice to meet low-cost temporary housing requirements.

AIR FORCE DORMITORIES

The subcommittee observed that even when the unit costs of Air Force barracks compares favorably with the cost of buildings of similar function built by other services, it is questionable whether the Air Force is getting as much for its money. The Air Force is constructing dormitory-type rooms for its men in preference to the open-bay areas in Army and Navy barracks. Composition board partitions are erected throughout.

Other features are hardwood floors and built-in frame closet and drawer space. These "extras" or "frills" were reported to the subcommittee to be an inducement to attract personnel to make a career in the Air Force. The Air Force contends also that dormitory-type rooms are justified as being a special requirement for Air Force personnel who are on staggered working schedules around the clock. Although some of this may be desirable in peacetime, it is doubtful whether these features are absolutely essential to the needs of the services in this period.

The subcommittee saw some indications that these extra features were obtained at the expense of durability and ultimately higher maintenance costs. For example, the barracks being built for the Army at Fort Knox and at Fort Monmouth appeared to be sturdier as well as cheaper and easier to maintain than anything seen in the Air Force. From this point of view, the subcommittee feels that taxpayers' dollars are better spent when so-called permanent-type barracks are designed to insure low long-term maintenance.

However, the net result of the variations in barracks standards among the services, is that the Air Force provides living quarters with more eye appeal than those usually found in the Army and the Navy. The subcommittee sincerely feels that it is in no position to say what these standards ought to be. It is nevertheless deeply concerned about the costs to the taxpayers caused by these variations. Before additional permanent-type housing authorizations are requested satisfactory dormitory standards should be prescribed which will be compatible with low long-term maintenance costs as well as minimum construction costs per unit.

The subcommittee found that the services have no standard classification for bachelor officers' quarters (BOQ). For example, a 36-man BOQ might have from 18 to 50 rooms. Conversely a 36-man BOQ might actually house anywhere from 36 to 72 officers. It is impossible to know from the description how many rooms are being built and how many officers will be housed in them. Obviously a comparison of per-man costs of constructing BOQ's is meaningless when the number of rooms and the space per man varies so greatly. These differences in terminology for common facilities seriously handicap Congress in scrutinizing performance and requirements and should have been eliminated long since.

Under the circumstances the fairest possible comparison of BOQ costs is to assume occupancy on the basis of one officer to a room, which assumption produces the following interesting tabulation.

Bachelor officer housing

Base	Rooms	Cost per man
Limestone	96	$5,750
Knox	[1] 128	5,460
Miramar	186	[2] 6,873
El Toro	48	[2] 7,076

[1] 4 buildings for 32 men each.
[2] Estimate; no bids yet.

The estimated cost of the buildings to be erected at Miramar Naval Air Station and El Toro Marine Corps Air Station are clearly out of line. The subcommittee is informed that the Office of the Secretary of Defense has ruled that the cost of construction of BOQ's should not exceed $6,000 per man. Assuming one man to a room, the prospective cost at these two bases is far in excess of this amount. Should the estimates prove to be approximately correct, the design for the two facilities should be subjected to the most penetrating scrutiny.

COLLATERAL EQUIPMENT

The subcommittee discovered an additional obstacle to the comparison of costs for similar facilities. There are no uniform standards among the services which determine whether so-called collateral equipment will be included in the construction price. For example, the cost of erecting a mess may or may not include the cost of the galley equipment. The Navy seems to include certain furniture costs in the barracks and BOQ cost figures, while the other services do not. The effect of this collateral equipment on unit costs may be very considerable. It is particularly pronounced in cases of maintenance and operational facilities in which expensive equipment is permanently installed. The subcommittee has not been given any convincing reason why terms, procedures and reports on construction projects cannot be standardized.

III. Overelaborate Construction

The subcommittee observed a number of facilities where modern engineering techniques combined with the use of inexpensive, good quality building materials had produced austere, but serviceable, permanent structures. Unfortunately, the exceptions were far too numerous.

LIMESTONE AIR FORCE BASE

Probably the most elaborate construction was found at Limestone, a new Air Force base. The base communications building appeared to be overdesigned. Although it is not yet occupied, and therefore its utilization could not be observed, more space is provided than in the building to serve the same purpose at Carswell which has a larger personnel complement. Plush features in the training building in-

cluded folding plastic partitions in the classrooms and expensive doors similar to those used in the most modern office buildings. The operations building would compare favorably with the most modern at any private airport. A spacious entrance foyer, with terrazzo floors and a circular stairway to the mezzanine, were in keeping with plush construction throughout the building. The bathroom in the BOQ had a tile wainscoting 6 feet high in the lavatory rooms outside of the shower stalls. Portions of the barracks exterior had a brick facing over masonry block which served no functional purpose.

The architectural concepts of the buildings at Limestone called for thermopane, which was installed in the original buildings but discontinued in later construction. This resulted in a large amount of glass area, adding considerably to fuel costs in the extreme cold of northern Maine. The exterior of the new 100-bed hospital appears austere, but the interior is de luxe in finish and special hospital facilities, including oxygen outlets in every room.

After the subcommittee observed the extremely crowded conditions at Carswell, it was surprised that relief had not been provided through the activation of Limestone where expensive and completed facilities stand idle. It was reported to the subcommittee that this new base is operational, even to the point of having completed such support facilities as sufficient barracks spaces. However, we were told that no family housing units will be ready for occupancy until the spring of 1953. The subcommittee is curious to see whether the Air Force intends to permit the new facilities at Limestone to remain idle at the expense of severe congestion at Carswell, and whether it is motivated by the desire to insure the completion of family housing quarters at Limestone before activating it.

MCCLELLAN AIR FORCE BASE

At McClellan Air Force Base the global communications building, which is a part of the Strategic Air Command's communications network, cost $29.55 per square foot, far in excess of standard unit costs. The excessive cost is easily understood by the visible plushness. It is air-conditioned throughout, although in only a few rooms a constant temperature is required for the sensitive equipment. Special acoustical ceiling tile is installed throughout, even in the hallways and stairwells. An expensive marble platform and steps lead into the main entrance. Also conspicuous was a large basement concrete floor area which is completely covered with asphalt tile even though this area is almost fully occupied with heavy communications equipment.

Another point which concerned the subcommittee about this luxurious facility was the possibility that the Air Force ordered a larger building than was required at McClellan. One concept of this building as originally justified provided for housing personnel on the top floor, and using the lower two floors for operations and administration. It now appears that because sufficient housing spaces are available at McClellan, the top floor will not be needed for housing. The subcommittee was unable to learn why the Air Force had not reduced its requirements and constructed a smaller building.

The $3 million communications shop building at McClellan which will be used for the repair and maintenance of all types of electronic

equipment has some aspects of an office building rather than a shop. A suspended ceiling hides utility lines including air-conditioning. There is asphalt tile on the floor and acoustical material on the ceiling. The cost of this building is over $26 a square foot. An almost identical building is under construction at Kelly Air Force Base, but it was not as far along.

KELLY AIR FORCE BASE

One of the most elaborate buildings inspected on the trip was the new $5½ million operational, administration, and training building for the Air Force Security Service at Kelly. This building is still under construction but it is apparent that when completed it will not lack any convenience or luxury. The most substantial and expensive type of construction is evident from foundation to roof. For example, suspended ceilings conceal all utilities, and tile 4 feet high lines the walls of corridors and stairwells throughout the buildings, which will be completely air-conditioned and acoustically treated. The luxurious features of this structure certainly should not be used in a standard facility for operations of this kind.

DENVER NAVAL AIR STATION

At the Denver Naval Air Station the subcommittee observed the shop buildings attached to each side of the new hangar. The expensive face brick exterior of these shops covered a construction of reinforced concrete frame with concrete block panels. This was the only maintenance-type structure observed where brick veneer was used over the concrete block. Some other installations, even in wet climates, and on barracks buildings, found waterproof paint a satisfactory covering for concrete block.

EL TORO MARINE CORPS AIR STATION

The subcommittee inspected a newly constructed warehouse at El Toro Marine Corps Air Station. The height of the ceiling was variously given as 21 feet 6 inches to 23 feet. It was questioned whether the base would normally be utilizing all the cubic space provided. Apparently it will not, for the Navy has now informed the subcommittee that the new standard design for base warehouses calls for a ceiling height of only 18 feet 6 inches.

One large area of the warehouse was set aside for bin storage. In this entire area permanent rigid light fixtures had been hung to within 8 feet of the floor, thus rendering unusable thousands of cubic feet of space. Apparently no thought had been given to ways by which this bin space could be provided at a reduced cost. This waste of space was one of the most glaring observed by the subcommittee.

IV. Rigid Specifications

The subcommittee saw instances where unnecessary expenditures may have resulted from building specifications which seemed to be unduly rigid. Allegedly it is the policy of each of the services to develop a standard plan for repetitive type facilities that can be adapted at the base to the local conditions. Such a procedure would seem to be logical, sound, and economical.

ALERT HANGARS

There are dangers in this procedure, also. At Hamilton Air Force Base the subcommittee inspected an alert hangar. These hangars accommodate fighter planes which must be able to become airborne very quickly. Each plane has its individual hangar section which is equipped with expensive, quick operating, mechanical door units both front and back. The subcommittee is informed that these door units make up at least one-third of the total cost of the hangar. It is conceivable that in some climates such hangar equipment might be needed to provide protection from the weather and yet permit almost instant take-offs. The subcommittee was not convinced that this was true at Hamilton.

Presumably the rear door had as one purpose to enable the plane to enter from the back and be headed in the right direction. At Hamilton this was impossible because the hangars were located immediately in front of a concrete-faced dike. It may be that funds will be requested for the expensive operation of setting the dike back. This possibility was mentioned. It appears that this hangar was intended to be a standard alert hangar. Perhaps it is desirable in certain climates, but surely its expensive features should be eliminated in localities where they are unnecessary.

In the middle of the hangar was a section designed as quarters for the stand-by crews. The second floor of these quarters was fully utilized. It seemed that there was no need at all for the first floor which had also been finished inside for occupancy, though it was not being used. As in the case of the doors, the standard plan had apparently been executed without regard to the local requirements and conditions.

ADMINISTRATIVE SPACE IN WAREHOUSES

At the Fort Worth Quartermaster Depot each new warehouse is being constructed with 6,000 square feet of administrative space. It was admitted that no office space was needed in these new warehouses since there was sufficient administrative space elsewhere. Depot officials stated that they requested the elimination of office space from the last two of the four warehouses being built. However, observation of the construction already in place showed that this had not been done. Apparently the standard design plan was followed even though this extra office space was not needed.

Furthermore by letter of November 28, 1952, to the subcommittee chairman the Army seeks to provide an excuse for this construction with an entirely different explanation than that given at Fort Worth. The letter contends that this space designed for administrative use, if not needed for that purpose, is intended for other needs such as bin storage. It was quite evident that space cut up in the manner of that at Fort Worth would not lend itself satisfactorily to bin or any other type of storage, and the Army's new explanation is unacceptable.

OBSOLESCENCE

Some permanent structures designed for highly specialized uses are in danger of early functional obsolescence, and not adaptable for alteration to meet new developments. An example of a facility already obsolescent was seen at Limestone Air Force Base. The Air

Force has developed a hangar costing $455,000 which will provide closed cover for the nose and wings of heavy bombers. Eight of these hangars have already been built at Limestone. None of these can be used for the newer heavy bombers. The Air Force has now approved a new design for these hangars which will make them usable for airplanes now in production. However, a number of these hangars at Limestone, Rapid City, and Fairchild Air Force Bases are already obsolescent.

V. Necessity for Construction

One of the most serious shortcomings observed by the subcommittee is the evidence that some military construction money is being spent for things which are not functionally necessary. Also there was evidence that some authorizations heretofore granted by the Congress may have been based on presentations which were inadequate, inaccurate, or misleading.

ROADS, CURBS, AND STREET LIGHTS

At Limestone Air Force Base the main roads had twice the paved width of many busy arterial highways. These roads were 44 feet in width while the State highways entering the base had not more than a 24-foot pavement. The snow-removal program during the winter months was cited as justification for this wide pavement but no one could explain why snow had to be piled on asphalt instead of frozen earth. The subcommittee is gratified that a representative of the Secretary of Defense inspected the base about 1 month prior to our visit and Secretary Lovett had ordered discontinuance of paving the excessive width.

Road costs were further increased by the installation of expensive granite curbs. Almost 3 miles of granite curbing was laid at a cost almost twice the cost of concrete curbs. There was considerable doubt in the minds of the subcommittee as to whether most of this curbing was needed at all.

The subcommittee also found that modern, boulevard-type cast-iron street lights had been installed at 125 and 150 foot intervals, even along isolated access roads outside of residential and operating areas. The engineer officer could not advise the cost of these expensive poles and fixtures, but stated that it cost about $200 to move one that had to be relocated.

TROOP HOUSING AT CARSWELL AIR FORCE BASE

At Carswell Air Force Base it was found that the anticipated requirements for troop-housing space will be filled when 1952 construction is completed, with a theoretical shortage of space for 127 men. Experience at this SAC base shows that a higher than normal percentage of airmen are married and occupying family housing, so that the shortage may actually never occur. At a base as large as Carswell the very slightest adjustment in space allowances will provide sufficient room for troops if such a shortage should develop for a short period. Yet, because the standard formula reveals a theoretical shortage, it is planned to go ahead with the construction in 1953 of 1 more 200-man dormitory (the standard Air Force design at permanent bases). Even

though this might be desirable under normal conditions, it does not seem that there is a very high degree of essentiality attached to the construction of this additional dormitory.

HEADQUARTERS, OPERATIONS, AND TRAINING BUILDINGS

In addition to the $800,000 training and briefing building at Limestone, the Air Force plans to build a wing headquarters building and three squadron operations buildings. These latter will be used for "day-to-day training and administration and briefing" and will provide some space for storage of personal equipment. They will cost in the neighborhood of $500,000 apiece and the wing headquarters building is expected to cost about $350,000. As explained to the subcommittee, it appeared unlikely that the combat crew and support personnel would make full-time utilization of these various facilities, and even if they did, it looked as if requirements could have been satisfied with a consolidation of space in fewer buildings and more careful planning for full-time use of a smaller area.

In this connection, the experience of the Army is of interest. Though the structures are not completely analogous, there are a number of regimental and battalion headquarters buildings planned for construction at various posts, including Fort Knox. When the Army was confronted with an administrative limit on the funds which could be made available for these buildings, it redesigned the buildings and eliminated much of the space originally contemplated. The subcommittee was informed that the Army is attempting to construct as nearly as possible the same number of headquarters as originally programed by providing only the absolutely essential space and, wherever feasible, these headquarters will be attached to barracks buildings instead of being set apart in separate structures.

At Fort Knox the subcommittee was shown a new training building with expensive amphitheater type lecture rooms. This building was designed for specialized types of advanced instruction for officers at the Armored Center. The subcommittee questions the necessity for constructing such elaborate facilities during the present emergency. It was concerned whether the present emergency had been used to obtain authorization for the expenditure of public funds for elaborate facilities before the completion of urgently required operational facilities.

AIR FORCE HANGARS AND REFUELING HYDRANTS

The Air Force is planning to build wing hangars similar to those at Limestone Air Force Base at bomber bases in northerly climates. These hangars provide a closed, heated area for the nose and wing of a plane. They are programed at $455,000 each. Eight of these hangars have been completed at Limestone and the Air Force expects to build several more. When hangar construction at this base is completed there will be more than enough wing-hangar or all-purpose hangar space for every single heavy bomber assigned to Limestone.

The subcommittee also observed the high speed refueling hydrants which are being installed at Limestone and other bases. At Limestone each bomber will have its own private hydrant at a cost of about $75,000, although the Air Force has been authorized to build not more than one for each two bombers at some other bases. The subcom-

mittee is in no position to know whether the Air Force has overstated its requirements for hangars and hydrants. However, the arguments presented in justification for so many of these two expensive items were not convincing to the subcommittee members.

NEW CONSTRUCTION AND THE NAVAL RESERVE PROGRAM AT THE DENVER NAVAL AIR STATION

The mission of the Denver Naval Air Station is to "provide facilities to support the Naval and Marine Air Reserve training program and flight proficiency for naval aviators in the Denver area." Approximately 200 Naval Reserve officers and enlisted men are trained at this station each week end. Once a month planes are flown to Salt Lake City and Albuquerque for week-end training of reservists in those areas. There were 452 active-duty naval personnel at Denver to support these training activities. The subcommittee was surprised at this high ratio of support personnel to trainees. It believes that a study of this ratio should be made with respect to each of the services in the hope that more efficient use of active-duty personnel will result.

A $2 million hangar and shop building at Denver was being built to supplement existing hangar and shop facilities. It is the first hangar to be built in the Navy's post-Korea military public works program and is the prototype of several others scheduled for construction at training bases generally. The subcommittee questioned the necessity for such construction at this small station at this time, especially in view of the fact that some hangar facilities already existed. Following the subcommittee's return to Washington it was informed that the construction of the new hangar was justified to Congress on the basis of "replacing temporary wartime construction with a new hangar." The naval request for construction authorizations for this station also included this statement: "Existing facilities are so deteriorated that deferment of this program will result in eventual abandonment of this essential activity."

Upon further inquiry the subcommittee was told informally that the roof of the old hangar is sagging badly and that considerable rehabilitation of the building would be necessary to maintain it in a safe and usable condition. This statement as well as some aspects of the justification seemed inconceivable to the subcommittee. The existing hangar, though of wood frame construction, appeared to be in reasonably good condition. No mention was made of any major structural defects nor were any observed. In fact, the subcommittee was told that the base will continue to use this hangar and it was being used at the time of our visit. This raises the serious question whether this construction was authorized by Congress on the basis of information which was inaccurate, incomplete, or misleading.

WORLD WAR II TEMPORARY BUILDINGS

This subcommittee has been interested for some time in the use of temporary buildings at military bases. Thousands of these structures were erected during World War II and have long since outlasted their anticipated usefulness. However, a great many have been rehabilitated to a serviceable condition and others are structurally sound so that rehabilitation can be undertaken within reasonable cost limits.

The Air Force originally contemplated disposing of all its temporary barracks over a 3-year period, 1952–54. After this subcommittee's investigation and report of conditions at Andrews Air Force Base, a resurvey of this situation was undertaken, and as a consequence the number of temporary barracks scheduled for disposition was materially reduced.

In this connection the group was especially interested in the situation at Lowry Air Force Base. Ninety temporary barracks housing 58 men each at Lowry are badly in need of exterior weatherproofing and interior rehabilitation of plumbing, flooring, and lighting. The subcommittee was told that these buildings are all structurally sound. Present plans and available funds call for the rehabilitation of 60 of these barracks at a cost of $15,000 each, about $260 per man, plus $120,000 to rehabilitate two mess halls, a cost of $120 per man; making a total cost of $380 per man for rehabilitating barracks and mess. Such a program is commendable, and the subcommittee believes funds should be provided to rehabilitate the other 30 buildings. This would save about $2,500,000 when compared with new construction.

At the Denver Naval Air Station the subcommittee observed an example of the haste and anxiety of the military services to dispose of temporary structures that are still serviceable. The base planned to request money for a new training building in the 1954 program to replace the present temporary building. It was contended that the new hangar, for a variety of technical reasons, could not have been situated anywhere on the base except exactly where it is now. Unfortunately, this meant that only 34 feet separate the hangar from the temporary training building, and Bureau of Aeronautics regulations prescribe a minimum distance of 50 feet.

Certainly the present frame building will not last indefinitely, and unless it is properly maintained some day it will be necessary to remove it. It was observed, also, that a part of this building has just been rehabilitated and appears now to be in satisfactory condition. It appeared to be adequately functional. As to the location of the new hangar, the subcommittee is not fully convinced that it was justified at all and is especially doubtful that it could not have been placed 16 feet farther from the training building. This situation raises the question as to whether the present emergency is being used to obtain additional plant facilities which are nice but not really urgent.

BASE TELEPHONE EXCHANGES

Another matter of deep concern to the subcommittee is the use of public works funds to construct utilities where private enterprise stands ready and able to expand its services for the military needs. At Limestone the Air Force has constructed a 1,000-line telephone exchange which can be expanded to 5,000 lines. Apparently the telephone company in that area was not consulted as to its capabilities for providing trunk lines and the switchboard. The reasons given for this were two: Security, and the requirements for training military personnel to operate overseas communications. These do not appear to be conclusive since civilians are frequently cleared to operate such facilities and since at some other installations identical facilities are furnished and maintained by the local utility companies and operated by both military and civilian personnel.

The subcommittee is gratified that the Secretary of Defense has recently issued a general policy directive dealing with this subject. With certain exceptions it requires the departments to lease the services and facilities of commercial telephone companies which are reasonably and adequately available. Care should be exercised to prevent abuse of these exceptions.

AIR FORCE SECURITY SERVICE

One of the most shocking examples of duplication and waste observed during the trip was at Kelly Air Force Base where facilities for the Air Force Security Service are being constructed. This is a specialized organization of the Air Force. Representatives of the AFSS either would not or could not explain why the Army, Navy, and Air Force do not have joint facilities to coordinate these operations.

The question arises as to whether these facilities cannot be used by more than one of the services, or whether it is necessary to duplicate or triplicate similar facilities for all three services. The subcommittee believes that the Secretary of Defense should review the activities of the National Security Agency, the Army Security Agency, the Office of Naval Intelligence, and the Air Force Security Service to insure that these agencies are not performing duplicate functions which in turn require duplication of physical facilities, training programs, and administrative procedures. If the functions are not duplicating, it still might be possible to provide for joint utilization of facilities for operations, training, and administration.

More than $9 million from 1951 and 1952 construction funds is being spent at Kelly for housing and messing, warehousing, training and administration space for AFSS. Dormitories housing 300 airmen have already been completed. The construction of housing for 1,600 more is getting under way. The inspection party was told that plans call for a large number of additional housing spaces at the AFSS site. One-third of the current cost of this new headquarters will go for housing and messing, and this ratio will rise if additional spaces are erected.

This subcommittee reported in June on the overprograming of Air Force dormitory requirements. In the course of this investigation it was pointed out that there were at Kelly Air Force Base 5,700 more dormitory spaces than would be needed when the base reached its full strength under the 143-wing Air Force. In spite of this the Air Force is going ahead with its plans to duplicate these airmen housing facilities for AFSS. This is explained as being necessary because the AFSS headquarters are situated approximately 8 miles from the living area on Kelly. If the men were housed and messed in existing buildings it was contended that a fleet of 100 trucks would be necessary to move them back and forth.

The difficulties in this situation seem to stem from the decision to locate AFSS, a tenant activity at Kelly, in an isolated area remote from the facilities of the main base. If currently authorized housing construction is completed for AFSS, about $3 million will be spent to duplicate other facilities at Kelly which will be unused when the transition to the 143-wing program is complete. The original decision as to the location of the main AFSS facility appears to be unsound and the decision to build new barracks around that facility appears to be based mainly on convenience.

MASTER PLANNING AT PATRICK AIR FORCE BASE

There is a very real danger that this unfortunate experience at Kelly will be repeated at Patrick Air Force Base. The Air Force Missile Training Center is experimenting with the development of guided missiles at this installation. Most of the buildings and other facilities are on the main base. A part of the work is carried on at an auxiliary base about 15 miles from Patrick and at offshore auxiliary stations.

The Air Force took Patrick over from the Navy in 1950. Several new buildings are programed for construction, including certain industrial buildings for the use of private contractors conducting the research and development operations. Two such buildings have already been constructed at Patrick. Since these were begun a new master plan has been proposed calling for their construction at the auxiliary base 15 miles away. The buildings already erected at Patrick would then be used for other purposes.

Although it might be more convenient to have these industrial buildings at the auxiliary base, this was recognized initially but was overridden by other considerations. There was no convincing presentation that this change now is necessary. The likelihood of eventual duplication of facilities is illuminated by the AFSS experience at Kelly. If the Air Force is permitted to build industrial facilities at the auxiliary base, the Congress may anticipate early and concerted effort to secure support facilities there which will inevitably duplicate those at the main base at Patrick. This subcommittee feels that this change in the master plan should not be approved without a showing of the utmost urgency and necessity for it.

During the inspection of the offshore auxiliary stations, the subcommittee was informed that at some future time it was likely that the Air Force would request money to build family housing units on these stations. If such a policy is adopted, it is likely that Congress will then be asked to provide for the construction of schools, hospitals, and other such facilities for the support of dependent personnel. The subcommittee recognizes that the Air Force will face very real morale problems at these isolated offshore stations. In dealing with this situation it is believed that a careful study should be made of alternate solutions, such as providing for a limited tour of duty at these stations, having in mind that rotation might be possible for the large number of trained personnel stationed at Patrick.

NELLIS AIR FORCE BASE SUPPORT PERSONNEL

Nellis Air Force Base is an advanced gunnery training base built during the last war. Except for the runways and airplane parking aprons, the construction of new facilities at this base had not progressed far enough for observation. When the subcommittee inquired about the mission and the utilization of this base, it learned that there were only 160 officers in training. About 2,600 officers and airmen as well as 500 civilian employees were assigned to the base to support these fliers. A ratio of about 20 personnel for each flier seems unreasonably high. Although the subcommittee is in no position to analyze the needs for such a large support program, it does believe that the problem should be reviewed by the Secretary of Defense in all military training activities.

WAREHOUSE UTILIZATION AND REQUIREMENTS

Over a period of time the subcommittee has been engaged in a study of military warehousing. This has proven to be a highly complex problem, but a large amount of work has been done in assembling and analyzing data of the Army and Air Force and attempting to relate this data to such departmental directives as exist.

The inspection trip enabled the subcommittee to observe some of the practices employed in the field and to question responsible service personnel concerning the manner in which storage is performed, space requirements are computed, and factual data is assembled and reported for use in justifying to Congress new authorizations for warehouse construction.

In the course of our study, which has been conducted principally at the Washington level, it has been universally contended that more warehouse space is needed. However, there has also been universally lacking any well-defined factual support for this contention. Frequently a major difficulty appeared to be the absence of any reasonable criteria or instructions. Where directives or instructions did exist they meant different things to different people. Some of this confusion seems due to the fact that basic definitions and terms have almost as many different meanings as there are people using them.

It had been hoped that as a result of operating experience, personnel in the field would be less confused than personnel in Washington and would be able to provide the subcommittee with usable information determined on a uniform basis. Unfortunately, this condition did not exist and at every installation where the storage question was raised, there was always confusion in the use of terms and in the definitions of such criteria as had been provided by departmental authorities. There is urgent need for uniform and clear-cut directives and definitions by which space requirements may be determined and space existing or to be constructed may be properly utilized. Under the existing system of reporting space requirements and utilization, the lack of uniformity makes it impossible for anyone either to evaluate the efficiency or present utilization or to determine properly what requirements are. Thus it is obvious that neither the services nor the Congress is able to say with reasonable assurance that the new warehouse construction presently authorized or programed for early authorization is in proper relation to actual needs.

Another aspect affecting the need for warehouse space concerns the nontemporary storage of household goods of military personnel. At the beginning of the subcommittee's study of depot-storage facilities we were advised that only two depots were used for storing the household effects of military personnel. One of these was located on the west coast and one in Tennessee. The number of depots storing this material was increased from 2 to 6 in May of this year, and there are now 17 such places of storage as a result of more recent designations.

The subcommittee has no information concerning the cost of crating and transporting these effects to the storage points. We question whether the military has such information. We believe, however, that there is urgent need for a study of this matter with a view toward determining whether it might be much more economical to store these household effects in nearby commercial facilities where crating would be unnecessary and where transportation would be nominal.

VI. Conclusions

1. The subcommittee found that the cost per man of building barracks housing approximately 100 men is significantly higher than for the construction of larger barracks. It is gratifying that the services have recently adopted a policy of constructing a fewer number of separate barracks buildings with larger capacities. This is serving to reduce the per-man cost of troop housing.

2. The estimated unit costs for constructing BOQ's at Miramar and El Toro and barracks at El Toro appear to be far out of line with costs at other installations visited by the subcommittee. The design plans should be reviewed to see where savings can be accomplished.

3. In some cases of barracks construction the Air Force has sacrificed durability for aesthetic considerations and convenience in order to stay within per-man cost limitations. Such a procedure seems to ignore austerity mandates and to be uneconomical from the standpoint of maintenance costs.

It is the feeling of the subcommittee that before additional requests for permanent-type troop housing are made to the Congress the Secretary of Defense should prescribe satisfactory dormitory standards which will be compatible with low long-term maintenance costs as well as minimum per-unit construction costs.

4. Among the services there is a wide variation in terms, definitions, procedures, and reporting practices. This makes cost comparisons difficult, if not impossible.

5. The subcommittee observed, even within a single service, wide variations in the design for repetitive structures such as barracks, messes and warehouses. Excessive unit costs for these facilities at some bases seemed to be attributable at least in part to a failure to adopt and use basic standard designs which experience should have shown by now to be the most efficient and economical.

6. The subcommittee observed many plush features of construction involving expensive materials and inefficient space utilization which are not compatible with the announced policy of austerity. Examples of this are described in section III.

7. Economies inherent in utilizing standard plans and designs are frequently nullified by failure to make appropriate adaptations to meet local conditions. For example, the use of a standard type alert hangar at Air Force bases without regard to climatic conditions seems unjustifiable. Also, expensive office space in the Army's standard warehouse designs should have been eliminated in situations where sufficient administrative space was already available.

8. Functional obsolescence is already apparent in certain specialized buildings only recently constructed. Example: The wing hangars constructed by the Air Force at northern bases.

9. The theoretical shortage of troop-housing space at Carswell Air Force Base after the completion of 1952 construction was reported to the subcommittee as involving only 127 men. Experience at Carswell indicates that this shortage may not actually develop. It would appear that construction of an additional dormitory should be deferred if not eliminated.

10. Air Force construction plans for training, wing headquarters, and squadron operations buildings at Limestone Air Force Base did

not appear defensible. There appears to be a serious lack of planning in efficient space utilization of these highly specialized and expensive structures.

11. The subcommittee felt that in certain instances there was insufficient effort to use and conserve temporary buildings which are structurally sound and subject to rehabilitation at moderate cost. There was some evidence that interservice rivalry for long-term permanent construction has overshadowed the desire to get the most defense for the least cost. A noteworthy exception was the attitude of the commanding general at Lowry Air Force Base who is recommending a plausible rehabilitation program.

12. Although the subcommittee found that the Air Force is installing its own telephone system at Limestone without trying to learn whether private industry would lease service to the base, it is gratifying to note that the Department of Defense has recently established the policy of leasing such services as a matter of general practice.

13. The Air Force is engaged in a costly construction program for providing supporting facilities for its Security Service which might have been unnecessary if more judicious planning had been exercised at the outset. Although some housing may be necessary for key AFSS personnel at its present location, the programed barracks construction for all AFSS personnel is extravagant and wasteful while ample barracks spaces at Kelly will probably remain empty. The completion of this expensive barracks construction program appears unwarranted at a time when other facilities seem to be more urgent.

14. The construction of facilities for the Air Force Security Service at Kelly raises the question whether there is unnecessary duplication of facilities for this type of program in each of the services. The subcommittee believes that this Air Force activity and similar activities in the other services, including the Department of Defense, should be thoroughly reviewed by the Secretary of Defense to insure against needless duplication.

15. The subcommittee remains convinced that the relocation of industrial facilities away from the support facilities at Patrick will result in a request for the erection of duplicating support facilities. In the absence of more thorough study and better justification the proposed relocation should not be permitted.

16. At some bases the subcommittee observed facilities under construction for which urgent requirements seemed doubtful. It questions the relative urgency for the construction of the new hangar at the Denver Naval Air Station when compared with the need at some other installations for facilities which have not even been authorized.

17. The subcommittee was concerned with the ratio of support personnel to trainees at certain training bases. While it cannot determine what ratio should be prescribed there was evidence of extravagant use of active-duty support personnel. It recommends a study of this ratio with respect to each of the services. Although the subcommittee was primarily concerned with possible savings in construction funds, it believes that evidence of wastefulness of manpower also deserves comment and requires attention.

18. There is urgent need for a comprehensive study of warehouse utilization and storage requirements and for uniform and clear-cut directives and definitions of terms and criteria. Under present condi-

tions the subcommittee is unable to evaluate the justification for warehouse construction already authorized and believes that the services are likewise unable adequately to support their estimates of space requirements whether already authorized or in the planning stage.

There have been notable achievements in the expansion of military facilities. Unfortunately, the directives requiring that the planning and design of construction proceed on the most austere basis which is compatible with the really essential military requirements, have too often received only secondary attention. The subcommittee believes that opportunities are plentiful for greater savings without sacrificing present military preparedness objectives.

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